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In re Application of	:
Bigaud et al.	:
Serial No.: 10/581,068	:Decision on Petition
Filed: November 9, 2006	:
Attorney Docket No.: 33537-US-PCT	:

This letter is in response to the petition filed under 37 C.F.R. § 1.144 on March 27, 2009 requesting reconsideration of the restriction requirement. The delay in acting upon this petition is regretted.

BACKGROUND

This application was filed as a national stage application under 35 USC 371 of PCT/EP04/013727 and as such, is eligible for PCT unity of invention practice.

On September 19, 2008, the examiner restricted claims 1-10 and 13-15 under 35 USC 121 and 372 into 6 groups as follows:

Group 1, claim(s) 1 and 2 in part as they require mRNA expression analysis, claims 6 and 13-15 as they depend from claim 1, and claims 9 and 10, drawn to methods for monitoring transplant rejection comprising analysis of mRNA expression.

Group 2, claim(s) 1 and 2 in part as they require protein expression analysis, claims 6 and 13-15 as they depend from claim 1, and claims 7 and 8, drawn to methods for monitoring transplant rejection comprising analysis of protein expression.

Group 3, claim(s) 3 in part as it requires mRNA expression analysis, drawn methods for monitoring transplant rejection comprising administration of an agent.

Group 4, claim(s) 3 in part as it requires protein expression analysis, drawn methods for monitoring transplant rejection comprising administration of an agent.

Group 5, claim(s) 4, drawn methods for affecting transplant rejection comprising administering a compound that alters gene activity.

Group 6, claim(s) 5, drawn methods for identifying an agent that affects transplantation rejection.

The examiner also required election of a specific gene or combination of genes.

On November 10, 2008, applicants elected, with traverse, Group I, methods for monitoring transplant rejection comprising analysis of RNA, and further elected the species AIF-1 gene. Applicants traversed the restriction requirement and requirement to elect a species.

On February 13, 2009, the examiner mailed to applicants a non-final Office action. The examiner considered the traversal of the restriction and species election requirements and made the requirements Final. Claims 3, 4, 5, 7, 8, 13, and 14 were withdrawn from consideration. Claims 1, 2, 6, 9, 10, and 15 were examined on the merits. The following objections and rejections were made:

1) Claims 1 and 2 were objected under for reciting non-elected subject matter;

2) Claims 2, 6, 9, 10, and 15 were rejected under 35 USC 101 as being directed to non-statutory subject matter;

3) Claims 1, 2, 6, 9, 10, and 15 were rejected under 35 USC 112, second paragraph, as being indefinite;

4) Claims 1, 9, and 10 were rejected under 35 USC 102(b) as being anticipated by Stegall et al.;

5) Claim 2 was rejected under 35 USC 103(a) as being unpatentable over Stegall et al.;

6) Claim 6 was rejected under 35 USC 103(a) as being unpatentable over Stegall et al. in view of Chandraker et al.;

7) Claim 15 was rejected under 35 USC 103(a) as being unpatentable over Stegall et al. in view of Kelemen et al.

On March 27, 2009, applicant submitted the petition currently under review.

DISCUSSION

The petition and file history have been carefully considered.

Claim 1, representative of Groups I and II, appears below:

Claim 1. (Original): A method of monitoring transplant rejection in a subject comprising

a) taking as a baseline value the level of mRNA expression corresponding to or protein encoded by at least one gene, in a specific tissue sample of a transplanted subject who is known not to develop rejection;

b) detecting a level of mRNA expression corresponding to or protein encoded by the at least one gene identified in a) in an tissue sample of the same tissue type as in a) obtained from a patient post-transplantation; and

c) comparing the first value with the second value, wherein a first value lower or higher than the second value predicts that the transplanted subject is at risk of developing rejection,

wherein the gene is as defined in Table 1, 2 or 3.

Claim 1, step (a) recites in the alternative either mRNA expression corresponding to or protein encoded by at least one gene. It is this portion of the restriction requirement which is under petition.

The petition correctly states that the claims are not directed to mRNAs or proteins. Applicants are claiming a method of using such, where the embodiments are recited in the alternative of a single claim. MPEP 803.02 provides guidance for the examination of Markush claims and states in part:

> The members of the Markush group (A, B, and C in the example above) ordinarily must belong to a recognized physical or chemical class or to an art-recognized class. However, when the Markush group occurs in a claim reciting a process or a combination (not a single compound), it is sufficient if the members of the group are disclosed in the specification to possess at least one property in common which is mainly responsible for their function in the claimed relationship, and it is clear from their very nature or from the prior art that all of them possess this property.

This guidance is similar to that provided by the International Search and Preliminary Examination Guidelines published January 2004, relevant parts of which are provided below:

> The situation involving the so-called Markush practice wherein a single claim defines alternatives (chemical or non-chemical) is also governed by PCT Rule 13.2. In this special situation, the requirement of a technical interrelationship and the same or corresponding special technical features as defined in PCT Rule 13.2, shall be considered to be met when the alternatives are of a similar nature.
>
> When the Markush grouping is for alternatives of chemical compounds, they shall be regarded as being of a similar nature where the following criteria are fulfilled:
>
> (A) All alternatives have a common property or activity; and
>
> (B)(1) A common structure is present, i.e., a significant structural element is shared by all of the alternatives; or

(B)(2) In cases where the common structure cannot be the unifying criteria, all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains.

In paragraph (B)(1), above, the words "significant structural element is shared by all of the alternatives" refer to cases where the compounds share a common chemical structure which occupies a large portion of their structures, or in case the compounds have in common only a small portion of their structures, the commonly shared structure constitutes a structurally distinctive portion in view of existing prior art, and the common structure is essential to the common property or activity. The structural element may be a single component or a combination of individual components linked together.

In paragraph (B)(2), above, the words "recognized class of chemical compounds" mean that there is an expectation from the knowledge in the art that members of the class will behave in the same way in the context of the claimed invention. In other words, each member could be substituted one for the other, with the expectation that the same intended result would be achieved.

In the instant case, the alternatives (i.e., detecting levels of mRNA or protein) have a common property as per PCT Rule 13.2(A), namely, that a change in the level of mRNA or protein is indicative of transplant rejection and that a decrease in mRNA expression would necessarily correlate with an accompanying decrease in protein level. The alternatives also meet the requirements of PCT Rule 13.2(B)(2), in that each member may be substituted for the other, with the expectation that the same intended result would be achieved. For these reasons, unity of invention is present between Group I and Group II and.the restriction between Groups I and II would not be not proper.

However, this application contains claims 7-10 directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows: the RNA corresponding to the gene (claims 9-10) and the protein encoded by the gene (claims 7-8)

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise require all the limitations of an allowed generic claim. Currently, the following claim(s) are generic: 1 and 2.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the species lack unity of invention because even though the inventions of these groups require the technical feature of **being derived from a gene**, this technical feature is not a special technical feature as it does not make a contribution over the prior art in view of Stegall, as applied in the prior art rejection, in the Office action mailed 13 February 2009.

Finally, it is noted that the examiner has objected to clams 1-2 for reciting non-elected subject matter. This is incorrect. Applicants are entitled to retain their generic claims for examination, per MPEP 809. See:

"Where the requirement for restriction in an application is predicated upon the nonallowability of generic or other type of linking claims, applicant is entitled to retain in the application claims to the nonelected invention or inventions."

DECISION

The petition is **GRANTED-IN-PART** for the reasons set forth above.

The restriction requirement between Groups I and II mailed September 19, 2008 is withdrawn.

An election of species requirement is set forth between the RNA corresponding to or protein encode by a gene. Because applicants elected Group I, (RNA), the species of RNA will continue to be examined.

The objection of Claims 1 and 2 for reciting non-elected subject matter is withdrawn.

The application will be forwarded to the examiner for preparation of a Office action consistent with this decision, in which the clams 1, 2, and 9-10 will be examined, per MPEP 809. Should the same or corresponding technical feature shared between the groups or the species become a contribution over the prior art, unity of inventions will be assessed anew. Should the generic claim become allowable, call claims which depend from or require all the limitations of the generic claim would be considered for rejoinder per MPEP 821.04(a).

Should there be any questions about this decision, please contact Special Program Examiner Julie Burke, by letter addressed to Director, Technology Center 1600, at the address listed above, or by telephone at 571-272-1600 or by facsimile sent to the general Office facsimile number, 571-273-8300.

Michael Wityshyn
Acting Director, Technology Center 1600